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ABSTRACT

Competitive employment for individuals with developmental disabilities is the ultimate goal in defining vocational success. Employment training programs for the mentally retarded have often focused on pre-vocational lock-step prerequisite skills rather than on a functional methodology that is skill specific. In contrast, the concept of ecological congruence addresses the match between the skill requirements of the specific job and the skill repertoire of the worker. This approach greatly reduces the usual problems of maintenance and generalization of trained behaviors. A quick, cheap, reliable instrument for evaluation of client skills is the Workskills Vocational Assessment, Training, and Transition Matrix, a criterion referenced device. Six subtests identify client strengths and weaknesses in gross and fine motor skills, flexibility and coordination, physical endurance, vision and hearing, communication, situational reasoning, and cognitive and academic skills. Assessment of the vocational community involves identification of potential job opportunities, followed by skill analysis and real-time surveys at potential job sites. Once a client-job match has been made, integration of the client into the work environment is accomplished through concentric transition, a technique involving gradual exposure to work, work site, and job responsibilities with the support of a job coach. Concentric transition may begin in either a public secondary school or sheltered workshop setting and continue in the real work world. (SV)

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Dependence to Independence: Vocational Success through Ecological Congruence

Competitive employment for individuals with developmental disabilities is the ultimate goal in defining vocational success. Often times, however, placement occurs at the sheltered workshop level and not at the competitive level resulting in the placement of a competent worker in a more restrictive vocational environment (Whitehead, Marrone, 1986). Leading to this point are the critical activities of vocational assessment. Historically, vocational evaluations have contained psychological assessments, work sample evaluations, and other norm referenced instruments which collect client-driven data in the *artificial* atmosphere of the sheltered workshop or assessment unit. This practice is considered *static* in that the information collected has only general applications to work-specific situations and fails, in many cases, to tap the skill areas of importance in the exceptional individual (Rusch, 1986). In order to assure accurate proactive vocational assessment, the evaluator must identify the *dynamic* skills necessary for job success. Professionals should consider the full range of skills and deficiencies possessed by the individual before making decisions relative to vocational job exposure and placement (Whitehead, Marrone, 1986).

While moves have been made to define and explain vocational evaluation, Wehman, et. al, (1988) contend that special educators, rehabilitation counselors, and vocational evaluators have low vocational expectations for persons with developmental disabilities. These expectations are shaped by a tradition of under-placement of the exceptional person in the job market as well as a historical focus on pre-vocational training programs and techniques which worked poorly. Miller and Schloss (1982) note that in the past, educators have relied heavily on standardized assessment

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instruments that generally summarize the student's vocational capability through a single number or series of numbers, such as IQ, without identifying aspects of an individual's intellect that may demonstrate strengths or weaknesses. "A major problem with earlier employment training programs for persons with mental retardation had been inadequate attention to training strategies with produce maintenance and generalization of trained behaviors (Szymanski, Maxwell, Hansen, Myers, 1988)." Additionally, past effort focused on a developmental approach to vocational training in which the trainee was thought to have required pre-vocational *lock-step* prerequisite skills (extremely time consuming and profitless, for the most part) rather than focusing on a *functional* methodology which is skill-specific.

It is the authors' contention that vocational assessment and training should address the match between the essential skills necessary to complete a job and the skills possessed by the individual to fulfill the requirements. In essence, by identifying viable job sites based on a match between the (1) skill requirements necessary to perform the specific job and (2) the skill repertoire of the worker, problems with maintenance and generalization are greatly reduced; thus the notion of *ecological congruence* and *worker-workskills matching*.

By definition the concept of ecological congruence allows for a match between the demands of the environments and the capabilities of the worker. By conducting vocational assessments through which there is a focused attempt to identify present-level-of-functioning in specific skill domains of a consumer, while at the same time collecting information relative to the specific skills required to successfully perform a job, the evaluator can identify suitable matches between an employable consumer and a potential placement.

For example, a job that requires that an individual be able to read is not ecologically congruent with illiterate individuals. However, a non-reader that possesses good upper body strength may be a good match for work that requires lifting but no reading.

It is necessary to establish ecological congruence in order to have an employee who is satisfied on the job and an employer who is satisfied with the employee. With an understanding of ecological congruence the challenge becomes one of making an effective match possible. The logical source of such a match, it seems, should be accomplished through existing assessment instruments. Although there are many vocational assessment devices on the market which make such claims, most users find that they fall short of the goal

and often prove unreliable or unusable, especially when evaluating individuals with more severe disabilities.

Ideally, evaluators want to be able to evaluate quickly, accurately, cheaply, with available personnel, and obtain reliable data. Most instrument on the market fall short of these criteria. The Workskills Vocational Assessment, Training, and Transition Matrixe (Creekmore), heretofore known as *Workskills,* satisfies these needs.

The purpose of *Workskills* is to match the worker to the position or positions he is most suited to fill, thus increasing the chances for a higher success rate on the job. *Workskills* is a criterion referenced assessment device which evaluates an individual's vocational abilities and targets strengths and weaknesses of those abilities. At the time of evaluation, weaker skills are targeted and determinations are made regarding the feasibility of remediating weak areas or identifying and providing compensatory techniques for the weaknesses.

Workskills is designed to assuage the identification of specific skills of a person with special needs. This assessment contains six subtests encompassing skill domains such as; gross and fine motor, flexibility and coordination, physical endurance, vision and hearing, communication, situational reasoning, as well as cognitive and academic skills. The integrative ability of *Workskills* allows the functional attributes of the individual to be identified as 1) existing skills, 2) targeted skills, or 3) compensatory skills. It also provides an affinity between vocational skills possessed by the consumer and specific requirements of a task or job. A simple example might be that of identifying the level at which a consumer's manipulation of objects using pincer grasp in both hands equates with possible vocational placement where turning knobs was a necessary performance.

Just as it is critical that we carry out an accurate assessment of the consumer, it is quite necessary that we do the same for the vocational community into which this individual will, hopefully, be placed. Community mapping serves this purpose. Community mapping is a task carried out by a job developer. It involves locating potential job sites for consumers in the area. The job developer must possess skills such as marketing, sales management, public relations, knowledge of community agencies, as well as knowledge of consumer training.

Moon, Goodall, Barcus, and Brooke (1986) provide guidelines for a community job market screening. They include use of the local chamber of commerce, screening newspaper classifieds, looking at

job trends in the area that have involved citizens with handicaps, as well as being aware of any requirements needed for a particular job.

Targeted employers are contacted first by phone or personal visit, followed by a visit to the possible job site, If the potential employer remains amiable to employing a consumer. At this point a Master-in-Industry is identified and a Skill Analysis and Real-Time Survey (SARTS) is conducted.

The purpose of skill analysis is to break down a task into its component parts in order to train that task to an individual. A real-time survey is used to gauge the balance between the time to complete the task and the quality of work performed. Some consumers may complete all tasks in a job but perform slowly. Others may work very quickly, but miss steps or become careless. The real time survey provides a standard from which production rate and pay scales can be made. They also provide time and quality goals from which a vocational curriculum can be based. Both real time surveys and skill analyses are completed by observing a competent person perform the particular task in question and recording each step in sequential order.

The process of collecting data may vary among researchers. We have adopted a method that uses a micro-cassette recorder and a master in industry. A Master-in-Industry is an individual that has been identified by the employer in the work setting as a competent worker. One whose standard of work in both quality and quantity is judged as competent. Once this person is identified, he or she is observed completing the tasks to be analyzed by the researcher. By orally identifying component parts of the task into the micro cassette recorder, a researcher can create a real-time file of the job. Later, he or she runs the tape with a stopwatch and records the time taken for each component step. This becomes the real-time survey. It includes the motions involved in completing each step, and the length of time for each. From this document, one then creates the skill analysis. This skill analysis, essentially the requisite skills of the job, is then compared to the skills possessed by the consumer. These have already been identified through ***Workskills*** . Information collected at the field sites in the form of skill analyses are scrutinized with regard to the skill domains listed on the matrix. Required skill levels are transferred to the appropriate matrix line. A skill matrix completed for the job profile is then compared directly to a matrix completed for the consumer profile. A high percentage match is sought between the individuals ability and the requirements for the job.

For the purpose of integrating these data into the structure of most public school systems, in the eighth grade the IEP will become an IVP (Individualized Vocational Program) that addresses the unique vocational needs of the student. The team will do detailed long range planning and using the *Workskills* assessment, develop a set of long term vocational goals for the student. One result of the *Workskills* evaluation is the Nova Targets. Nova Targets are the perceived strengths and weaknesses of a client. These will be used to develop an applied curriculum that will enhance the capabilities of each individual.

The curriculum will address the unique variables of each individual by building on existing strengths and looking at each weakness closely to determine if remediation or compensation is the best approach. The functional curriculum will use this information to build as diverse and student-enhancing a program as possible. Thus the student is developing life enhancing skills that will lead to meaningful independence at work and in his private life.

To this point emphasis has been placed on the collection of data and the use of those data in the preparation of a "plan" for the integration of the consumer into the world of work. Focus should now be placed on the actual methodology for the facilitation of that plan. Concentric Transition is a technique which draws on the practice of skill.focused integration into responsible vocational environments. By this we mean that, just as was the case for you and I, exposure to work and the variety of responsibilities associated with it was gradual, so also should be the introduction of these same variables and responsibilities to a person with special needs. A discussion of the three basic types of concentric transition will follow.

Concentric Transition: Public School Scheme

Traditional techniques for the juxtaposition of exceptional secondary level students who are involved in special education programs have lacked sophistication and desired effectiveness in many cases because of the lack of data based placement decisions. These "vocational experience" practices give the student unrealistic and artificial perceptions about work and are in many cases linked to production without pay scenerios which are less than reinforcing or realistic to the consumer desiring to enter the world of work. After all, the driving force for work is none other that the almighty dollar.

The technique suggested by the authors is that a plan of "Concentric Exposure" be implemented using job coaching support.

These job coaches are the teacher, custodian, cafeteria worker, etc. (referred to earlier as Masters in Industry) who are already well versed in the jobs that they do. By using this first exposure strategy, the staff of the school assume some ownership for the success of the individual as well as getting help on their respective responsibilities. Using this procedure the classroom is the first site of training in which periods of the day would be designated as "Work sets". During these times, the room is transformed into an industry site in which the student is required to clock in, do piece-rate work (which can be procured from local churches, welfare office, chamber of commerce, or the central office) and actually take breaks. The job coach in this instance is the classroom teacher.

The first exposure vocationally bound adolescents should take place early on in their secondary career accompanied by the shift in focus from IEP curriculum formatting to that of an IVP which specifically emphasizes job-specific types of skills. Movement from the relatively cloistered classroom site to the next level, that of an in-building and on-campus work station with one of the above mentioned Masters in Industry should occur when the consumer has demonstrated the necessary skills to support that type of move. Moves made too early threaten the integrity of your relationship with the Master since it tends to overburden him with teaching attending and perseverance skills which are not his/her perview. Placement at this level beyond the time when a consumer (student) is excited about and prepared for the placement brings with it the possibility of loss of interest, boredom and suspicion since you have communicated to him/her that the move would be made just as soon as he/she was prepared and willing to work.

The key to successful experiences at this level is monitoring and iconic instruction with payoff. By this we mean that the student should be molded into the job carefully and completely so that no misunderstanding takes place. "Failure free training" necessitates that the consumer has all that he/she needs to know in order to respond to situations. Associated with this is a strong behavior management plan which capitalizes on the positive performance of the consumer and is delivered in a timely fashion.

The students can be placed in an array of work sites with a variety of Masters on his campus with data being collected along the way used to make the next placement decisions. Movement from this campus to another campus for portions of the day can also be folded into the IVP if logical for that consumer. "Vocational Loaning" to a sister school allows for generalization of skills and the acquisition of pride and confidence that "I can do this in other places too."

It is necessary to see how well the consumers work in isolation, with small crews and with large ones. For this reason, somewhere within the concentric transition plan, the individual consumer should be given an opportunity to work in mobile work crews, enclaves and by him/herself. Data from these experiences will help paint the complete vocational picture of the student.

Movement from the school campuses to the community is a big step which can be handled with relative ease in a mobile work crew format. Cooperative agreements with local city recreation and parks departments to maintain softball fields, basketball courts and the like would allow the consumers in a school program to integrate into the community using the job coaching plan. This integration will "grease the skids" for many consumers into actual job possibilities of a permanent nature in their communities. Exposure to jobs without leaving campus or exposure just for exposure's sake is far less effective than a plan based on vocational performance data collected over a period of time in an array of job settings and through conversation with the consumer.

The logical extension to this type of concentric transition model is the permanent placement of the consumer into competitive employment at the optimum time in his life. The suggestion is made that a consumer conceivably could be prepared for competitive employment well before he ages out of the school systems service ages (age 21) and should be working when that occurs.

Sheltered Workshop Conversion

A national trend developing looks at modifying and expanding the array of vocational training options and procedures to include on-site vocational training rather than the traditional isolated in-house pre-vocational skill building practiced for so many years. Through the use of concentric transitioning, the consumer can be gradually introduced to the less restrictive atmosphere of work in success chunks, the technique, addressed in detail in other writings allows the consumer to avail him/herself of the array of work opportunities in the community with the support of job coaches and master's in industry prior to being released to "sink or swim" vocationally speaking. The steps explained above would be followed in this set of instances as well; the only difference being the actual age of most consumers being somewhat older in the sheltered workshop environment.

Caution must be taken to make vocational decisions which are data-driven to avoid failure of unnecessary stress, and inappropriate not positive vocational experiences for the consumer. Negative

behavioral histories erode motivation, positive vocational risk taking on the part of the consumer and confidence, a commodity often lacking in our clients.

Within Competitive Employment

Using the model described allows the consumer not only to receive accurate vocational experience while he/she are still in the public school setting or the sheltered workshop environment but also can be easily applied in the real work world. Through the application of this technique, data based decisions can be made with stress-light moves made from one job classification or station to another. This lateral movement is quite common in non-handicapped workers within the world of work and should be also for workers with special needs. By allowing for skill-common moves to be made (other work stations or jobs which require essentially the same skills but in a different array) within the company, the consumer learns a variety of jobs and by so doing becomes a more valuable employee to the manager or supervisor. Vertical progress can be facilitated in much the same way with decisions being made based on worker interest and work history indicating that he/she is capable of handling the responsibilities and skills at the next level. These are very normal job move variables with which we all must deal in order to progress in our chosen job types. It is inaccurate to assume that a person with special needs desires to be a fry cook all of his/her life. We don't, why should they? And a vehicle would be provided to allow for that progress within a plan of habilitation.

We have attempted to briefly discuss an evaluation, curriculum and service array which is both functional, practical and exciting. Through the use of skill specific assessment procedures, training specific curricula and vocational placement methodology which closely approximate that of a normal individual, possibility for vocational success should be enhanced.

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